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=> s cmv or cytomegalovirus or cytomegalo virus

L1 47016 CMV OR CYTOMEGALOVIRUS OR CYTOMEGALO VIRUS

=> s pp28

L2 68 PP28

=> s "ad169" or "ad 169"

L3 996 "AD169" OR "AD 169"

=> s 11 and 12 and 13

L4 6 L1 AND L2 AND L3

=> dup rem 14

PROCESSING COMPLETED FOR L4

L5 2 DUP REM L4 (4 DUPLICATES REMOVED)

=> d 1-2 bib ab

L5 ANSWER 1 OF 2 MEDLINE DUPLICATE 1

AN 91361569 MEDLINE

DN 91361569

TI Human \*\*\*cytomegalovirus\*\*\* strain Towne \*\*\*pp28\*\*\* gene: sequence comparison to \*\*\*pp28\*\*\* of HCMV \*\*\*AD169\*\*\* and stable expression in Chinese hamster ovary cells.

AU Pende H; Campo K; Tananach B; Zain J A

CS Division of Immunology, Beckman Research Institute of the City of Hope, Duarte, California 91010..

NC CA30206 (NCI)

CA33572 (NCI)

SO VIROLOGY; (1991 Oct) 184 (2) 762-7.

Journal code: XEA. ISSN: 0042-6822.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals; Cancer Journals

OS GENBANK-M73441

EM 199112

AB Human \*\*\*cytomegalovirus\*\*\* (HCMV) contains a 28-kDa (

\*\*\*pp28\*\*\* ) matrix phosphoprotein which has been shown to be highly immunogenic in humans. We have cloned and sequenced the gene encoding \*\*\*pp28\*\*\* of HCMV Towne strain (pp28Towne) and have expressed this gene in stable Chinese hamster ovary (CHO) cell lines in order to examine the structural, functional, and antigenic properties of this protein. The pp28Towne gene had 99% nucleotide and 98.4% amino acid similarity to the \*\*\*pp28\*\*\* gene of HCMV \*\*\*AD169\*\*\* strain (pp28AD169). We identified three amino acid substitutions (Gly70 to Ser70, Ser76 to Asn76, and Thr85 to Ala85) in pp28Towne, all clustered in a short 16 amino acid stretch located in the N-terminal half of the protein. The pp28Towne gene was expressed in CHO cells using a vector in which transcription was driven by a human beta-actin promoter. The expressed protein, having an electrophoretic mobility similar to that of HCMV-derived \*\*\*pp28\*\*\*, reacted strongly in immunoblot analysis with \*\*\*pp28\*\*\*-specific murine monoclonal antibodies as well as HCMV-seropositive human sera.

L5 ANSWER 2 OF 2 MEDLINE DUPLICATE 2

AN 88230581 MEDLINE

DN 88230581

TI Identification and procytolytic expression of the gene coding for the highly immunogenic 28-kilodalton structural phosphoprotein (\*\*\*pp28\*\*\* ) of human \*\*\*cytomegalovirus\*\*\*

AU Meyer H; Bankier A T; Landini M P; Brown C M; Barrell B G; Ruger B; Mach M

CS Institut für Klinische und Molekulare Virologie, Universität Erlangen-Nürnberg, Federal Republic of Germany.

SO JOURNAL OF VIROLOGY; (1988 Jul) 62 (7) 2243-50.

Journal code: KCV. ISSN: 0022-538X.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals; Cancer Journals

OS GENBANK-M21013

EM 198809

AB Human \*\*\*cytomegalovirus\*\*\* contains a structural polypeptide that is 28 kilodaltons in apparent molecular size and is reactive in Western blot (immunoblot) analysis with the majority of human sera. The gene coding for this polypeptide was mapped on the genome of human \*\*\*cytomegalovirus\*\*\* strain \*\*\*AD169\*\*\*. A monoclonal antibody specific for the 28-kilodalton polypeptide was used to screen a cDNA library constructed from poly(A)+ RNA of human \*\*\*cytomegalovirus\*\*\*-infected cells in the procytolytic expression vector lambda gt11. Hybridization of cDNA with cosmid and plasmid clones mapped the gene to the HindIII R fragment. The gene was transcribed into a late 1.3-kilobase RNA. The nucleotide sequence of the coding region was determined. Parts of the 28-kilodalton polypeptide were expressed in Escherichia coli as hybrid proteins fused to beta-galactosidase. In Western blots these proteins were recognized by human sera. Antibodies raised against the hybrid proteins reacted specifically with the viral antigen in immunoprecipitations and Western blots. In vitro phosphorylation of HCMV virions and immunoprecipitation showed that the 28-kilodalton polypeptide was phosphorylated.

=> s 11 and 12

L6 40 L1 AND L2

=> s "hindiii" or "hind III"

L7 15646 "HINDIII" OR "HIND III"

=> s "smal"

L8 2866 "SMAI"

=> s 17 and 18

L9 686 L7 AND L8

=> s 19 and 16

L10 019 AND L6

=> s 19 and 11

L11 3 L9 AND L1

=> dup rem 111

PROCESSING COMPLETED FOR L11

L12 1 DUP REM L11 (2 DUPLICATES REMOVED)

=> d bib ab

L12 ANSWER 1 OF 1 MEDLINE DUPLICATE 1

AN 91116306 MEDLINE

DN 91116306

TI The genome of human herpesvirus 6: maps of unit-length and concatemeric genomes for nine restriction endonucleases.

AU Martin M E; Thomson B J; Honess R W; Craxton M A; Compes U A; Lau M

Y; Little E; Arrand J R; Teo I; Jones M D

CS Division of Virology, National Institute for Medical Research, Mill Hill, London, UK.

SO JOURNAL OF GENERAL VIROLOGY; (1991 Jan) 72 (Pt 1) 157-68.

Journal code: J9B. ISSN: 0022-1317.

CY ENGLAND; United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals; Cancer Journals

EM 199105

AB More than 50 fragments resulting from complete digestion of the DNA of human herpesvirus 6 (HHV-6, strain UI102) with BamHI, EcoRI, \*\*\*HindIII\*\*\*, KpnI, NruI, SalI or \*\*\*SmaI\*\*\* have been isolated as clones in M13, plasmid, cosmid and lambda vectors. Using these clones, maps have been constructed for the fragments produced by nine restriction enzymes from unit-length virus genomes and from their concatemeric precursors. The unit-length genome is a linear, double-stranded molecule of 161.5 kbp composed of a central segment of a largely unique sequence of 141 kbp (U) with a sequence of 10 kbp duplicated in the same orientation at both 'left' and 'right' genomic termini (i.e. 'left' and 'right' copies of the direct repeat: DRL and DRR). Adopting as standard an orientation in which the major capsid protein gene is 'left' of the gene for alkaline exonuclease, then the 'right' genome termini and DRL. U junctions occur close to or within repetitive (GGGTTA)n sequences. Repetitions of short sequence motifs are present in at least two other regions of the genome. One of these regions consists of a simple repeat (TCG) of approximately 1.5 kbp in length and is unstable as clones in bacterial vectors. The second region is stably maintained in such vectors and consists of a tandem array of at least 25 copies of a 110 bp sequence containing a single KpnI site. Comparisons of fragments arising from unit-length DNA with those from virus DNA from the nuclei of infected cells have shown that the concatemeric junctions in intracellular DNA contain head-to-tail dimers of the terminal duplications (i.e. ...UI1.DRL1.DRL2.U2...). The gross structure established here for the genome from the UI102 isolate of

HHV-6 resembles closely that suggested by Pellet and his colleagues for the Z29 isolate and differs from that of the five previously characterized human herpesviruses. This structure of HHV-6 DNA bears a superficial resemblance to that proposed for DNA from channel catfish virus and equine \*\*\*cytomegalovirus\*\*\*

=> d this

(FILE HOME ENTERED AT 09:25:04 ON 03 JUL 1998)

FILE MEDLINE BIOSIS, CAPLUS ENTERED AT 09:25:17 ON 03 JUL 1998

L1 47016 S CMV OR CYTOMEGALOVIRUS OR CYTOMEGALOVIRUS

L2 68 S P228

L3 996 S \*AD169\* OR \*AD 169\*

L4 6 S L1 AND L2 AND L3

L5 2 DUP REM L4 (4 DUPLICATES REMOVED)

L6 40 S L1 AND L2

L7 15646 S \*HINDIII\* OR \*HIND III\*

L8 2866 S \*SMAI\*

L9 686 S L7 AND L8

L10 0 S L9 AND L6

L11 3 S L9 AND L1

L12 1 DUP REM L11 (2 DUPLICATES REMOVED)

=> s human and l3

L13 938 HUMAN AND L3

=> s l13 and l1

L14 937 L13 AND L1

=> s glycoprotein

L15 168336 GLYCOPROTEIN

=> s phosphoprotein

L16 24580 PHOSPHOPROTEIN

=> s \*p2811\*

L17 0 \*P2G11\*

=> s monoclonal or \*mab P2G11\*

L18 344708 MONOCLONAL OR \*MAB P2G11\*

=> s l15 or l16

L19 192406 L15 OR L16

=> s l19 and l14

L20 125 L19 AND L14

=> s l28 and l14

L28 NOT FOUND

The L-number entered could not be found. To see the definition of L-numbers, enter DISPLAY HISTORY at an arrow prompt. (=>).

=> s l18 and l14

L21 139 L18 AND L14

=> s l21 and \*mab P2G11\*

L22 0 L21 AND \*MAB P2G11\*

=> s l21 and l20

L23 43 L21 AND L20

=> d this

(FILE HOME ENTERED AT 09:25:04 ON 03 JUL 1998)

FILE MEDLINE BIOSIS, CAPLUS ENTERED AT 09:25:17 ON 03 JUL 1998

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L9 686 S L7 AND L8

L10 0 S L9 AND L6

L11 3 S L9 AND L1

L12 1 DUP REM L11 (2 DUPLICATES REMOVED)

L13 938 S HUMAN AND L3

L14 937 S L13 AND L1

L15 168336 S GLYCOPROTEIN

L16 24580 S PHOSPHOPROTEIN

L17 0 S \*P2G11\*

L18 344708 S MONOCLONAL OR \*MAB P2G11\*

L19 192406 S L15 OR L16

L20 125 S L19 AND L14

L21 139 S L18 AND L14

L22 0 S L21 AND \*MAB P2G11\*

L23 43 S L21 AND L20

=> s l3 and l23

L24 43 L3 AND L23

=> s l24 and human

L25 43 L24 AND HUMAN

=> dup rem l25

PROCESSING COMPLETED FOR L25

L26 21 DUP REM L25 (22 DUPLICATES REMOVED)

=> d 1-21 b1b ab

L26 ANSWER 1 OF 21 BIOSIS COPYRIGHT 1998 BIOSIS AN 97:414434 BIOSIS DN 99706477

T1 Identification of the gene coding for thesus \*\*\*cytomegalovirus\*\*\*  
\*\*\*glycoprotein\*\*\* B and immunological analysis of the protein.

AU Kropff B; Mach M  
CS Institut fuer Klinische und Molekulare Virologie, Universitaet  
Erlangen-Nuernberg, Schlossgarten 4, 91054 Erlangen, Germany

SO Journal of General Virology 78 (8), 1997, 1999-2007 ISSN: 0022-1317

LA English

AB The nucleotide sequence of the gene encoding \*\*\*glycoprotein\*\*\* B (gB) of thesus \*\*\*cytomegalovirus\*\*\* (RtCMV) was determined and the protein characterized. The open reading frame of gB encoded a protein of 854 amino acids with 60% identity and 75% similarity at the amino acid level to \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* (HCMV) gB. Cysteine residues in the extraluminal part of the protein are perfectly conserved. Out of the 16 potential N-linked glycosylation sites present in HCMV gB, 15 are conserved in RtCMV gB. Immunoblot analyses with antisera detected three bands of 150 kDa, 90-110 kDa and 55 kDa representing the full-length gB as well as the proteolytic cleavage products. Cross-reactivity and

cross-neutralization of a number of HCMV gB-specific  
\*\*\*monoclonal\*\*\* antibodies with RtCMV gB indicated sharing of immunogenic epitopes between the two molecules. The RtCMV gB regions corresponding to antigenic domains AD-1, 2 and 3 of HCMV gB were immunogenic during natural RtCMV infection with the AD-1 region being the immunodominant domain. The data indicate that RtCMV might represent a useful model to investigate pathogenesis and immune surveillance of cytomegaloviruses.

L26 ANSWER 2 OF 21 MEDLINE DUPLICATE 1

DN 95088574 MEDLINE

T1 Intracellular localization and DNA-binding activity of a class of viral early phosphoproteins in \*\*\*human\*\*\* fibroblasts infected with \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* (Towne strain).

AU Iwayama S; Yamamoto T; Furuya T; Kobayashi R; Iwata K; Hirai K  
CS Department of Cell Regulation, Tokyo Medical and Dental University, Japan.

SO JOURNAL OF GENERAL VIROLOGY, (1994 Dec) 75 ( Pt 12) 3109-18.

Journal code: JGB, ISSN: 0022-1317.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals; Cancer Journals

OS GENBANK-D26511

EM 199503

AB Indirect immunofluorescence (IF) with \*\*\*monoclonal\*\*\* antibody M23 prepared against the nucleol of \*\*\*human\*\*\* embryo lung (HEL) cells infected with \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* (HCMV) Towne strain showed that the M23 antigen reactive with the M23 antibody was localized within distinct foci throughout the nucleus of infected HEL cells shortly after infection, even at 2 h post-infection (p.i.). The foci increased in size by 24 p.i. and then the IF patterns changed to show the nuclear inclusion body-like structures at 72 h p.i. Treatment with phosphono-acetic acid, a HCMV DNA replication inhibitor, resulted in a nuclear pattern similar to that observed shortly after infection. The double-labelled IF test revealed that the HCMV UL44 antigen essential for viral DNA replication colocalized with the M23 antigen in the same intranuclear structure shortly after infection whereas neither viral antigen appeared to colocalize in most cells later after infection. The M23 antibody immunoprecipitated four proteins, 34K, 43K, 50K and 84K, in infected cells. To examine whether these proteins correspond to four early phosphoproteins encoded by the HCMV strain \*\*\*AD169\*\*\* genome, the Towne strain DNA sequence corresponding

10 that encoding both the 34K and 43K proteins of strain \*\*\*AD169\*\*\* was determined and transiently expressed in COS-7, Vero and HEL cells. These proteins were detected by the M23 antibody within the

fool of these nuclei as found in the nuclei of productively infected cells shortly after infection. In addition, the 34K, 43K and 50K proteins at least were shown to be DNA-binding proteins by double- and single-stranded DNA-cellulose column chromatography. The relationship of these proteins to the status of viral DNA replication is discussed.

L26 ANSWER 3 OF 21 CAPLUS COPYRIGHT 1998 ACS  
AN 1995:588262 CAPLUS

DN 123:134808

TI The antigenic and genomic variation of \*\*\*human\*\*\*

\*\*\*cytomegalovirus\*\*\* (HCMV) isolated in Korea

AU Hwang, Eung-Soo; Lee, Hong-Bock; Lim, Dong-Gyun; Seoh, Ju-Young; Park, Chang-Gyu; Park, Jae-Won; Jang, Hyun-Soon; Kook, Yoon-Hoh; Lee, Hwan-Jong, et al.

CS College of Medicine, Seoul National Univ., Seoul, 110-799, S. Korea

SO Taejeon Misaeungmul Hakhoechi (1994), 29(6), 631-9

CODEN: TMHCOD; ISSN: 0253-3162

DT Journal

LA Korean

AB Antigenic and genomic variations of HCMV isolated in Korea were studied using a panel of \*\*\*glycoprotein\*\*\* B (gB)-specific

\*\*\*monoclonal\*\*\* antibodies and PCR of the gB gene followed by

restriction enzyme anal. The reactivities of the \*\*\*monoclonal\*\*\*

antibodies to several Korean HCMV isolates differed from that of the

lab. strain \*\*\*AD169\*\*\*. Restriction anal. of the gB gene from

15 Korean isolates showed 2 isolates with the same restriction

pattern as \*\*\*AD169\*\*\* and 13 isolated with different patterns.

Thus, HCMV isolated in Korea had unique antigenic and genomic

structures.

L26 ANSWER 4 OF 21 MEDLINE DUPLICATE 2  
AN 95030975 MEDLINE

DN 95030975

TI \*\*\*Human\*\*\* \*\*\*monoclonal\*\*\* anti- \*\*\*cytomegalovirus\*\*\*

( \*\*\*CMV\*\*\* ) antibody (MSL 109): enhancement of in vitro

foscarnet- and ganciclovir-induced inhibition of \*\*\*CMV\*\*\*

replication.

AU Notta M; Tolpin M D; Nadler P I; Pollard R B

CS Department of Internal Medicine, University of Texas Medical Branch,

Galveston 77555.

SO ANTIVIRAL RESEARCH, (1994 May) 24 (1) 17-26.

Journal code: 017. ISSN: 0166-3542

CY Netherlands

DT Journal: Article. (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199501

AB \*\*\*Human\*\*\* \*\*\*CMV\*\*\* causes a number of diseases that cause

considerable morbidity and that can be life-threatening in

immunocompromised patients, particularly those with AIDS.

Ganciclovir (GCV) and Foscarnet (PFA) are currently the drugs of

choice for management of \*\*\*CMV\*\*\* disease. Both are not without

side effects and have a relatively narrow margin of safety. In this

report the effects of a \*\*\*human\*\*\* IgG1 neutralizing

\*\*\*monoclonal\*\*\* antibody MSL-109 (MSL, Sandoz Pharmaceuticals)

on \*\*\*CMV\*\*\* replication was examined both alone or in combination

with either GCV or PFA. \*\*\*Human\*\*\* embryonic lung fibroblasts

were infected with \*\*\*CMV\*\*\* strain \*\*\*AD169\*\*\* with a

multiplicity of infection of 3 plaque forming unit/cell for 1 h.

Prior to infection the virus was incubated for 30 min at 37 degrees

C with serial concentrations of the MSL Ab (0.1-3.0 microgram/ml).

Concentrations of GCV (0.3 to 30 microM) or PFA (50-400 microM) were

added to \*\*\*CMV\*\*\*-infected cells that had been either

previously incubated with MSL or not. Four days after infection

\*\*\*CMV\*\*\* replication was measured by DNA/DNA probe

hybridization

using the Hybridix system. MSL in combination with GCV had an

additive effect that was observed at concentrations of GCV of 2-10

microM and MSL of 1-10 microgram/ml. On the other hand, MSL (2-10

microgram/ml) together with PFA (100-400 microM) produced a

synergistic effect on \*\*\*CMV\*\*\* replication. The data suggest

that MSL at doses achievable in humans, enhanced GCV- and

PFA-induced antiviral effect in a dose-dependent manner and that the

combination might be clinically useful in the treatment of

\*\*\*CMV\*\*\* disease.

L26 ANSWER 5 OF 21 MEDLINE DUPLICATE 3  
AN 93019061 MEDLINE

DN 93019061

TI \*\*\*Glycoprotein\*\*\* gp116 of \*\*\*human\*\*\*

\*\*\*cytomegalovirus\*\*\* contains epitopes for strain-common and

strain-specific antibodies.

AU Meyer H; Sindqvist V A; Pericin L; Mach M

CS Institut für Klinische und Molekulare Virologie,

Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany.

SO JOURNAL OF GENERAL VIROLOGY, (1992 Sep) 73 (P 9) 2375-83.

Journal code: 19B. ISSN: 0022-1317.

CY ENGLAND: United Kingdom

DT Journal: Article. (JOURNAL ARTICLE)

LA English

FS Cancer Journals: Priority Journals

EM 199301

AB \*\*\*Glycoprotein\*\*\* gp116 of \*\*\*human\*\*\*

\*\*\*cytomegalovirus\*\*\* (HCMV) is a target for neutralizing

antibodies. Gp116 is a component of the gC1 complex which consists

of gp58 and gp116. Like its homologue, \*\*\*glycoprotein\*\*\* B of

herpes simplex virus type 1, gp116 contains a highly antigenic

region in the N-terminal part of the molecule, between amino acids

28 and 84. Prokaryotic expression plasmids and synthetic peptides

were used to define binding sites for mouse and \*\*\*human\*\*\*

\*\*\*monoclonal\*\*\* antibodies (MAbs) as well as HCMV convalescent

sera. Site I, located between amino acids 68 and 77, contains an

epitope recognized by the \*\*\*human\*\*\* Mab C23, which is capable

of neutralizing HCMV independently of complement and the site is

conserved between HCMV strains. Of HCMV-positive \*\*\*human\*\*\*

sera, 53% recognized site I. Site II was mapped using mouse MAbs as

well as \*\*\*human\*\*\* sera. It is located between residues 50 and

54, an area which is not conserved between strains \*\*\*AD169\*\*\*

and Towne; the two laboratory strains of known sequence.

Strain-specific antibodies were detected in 25% of \*\*\*human\*\*\*

sera. Site II-specific antibodies, purified from \*\*\*human\*\*\*

sera by affinity chromatography, were found to be incapable of

neutralizing HCMV in tissue culture.

L26 ANSWER 6 OF 21 MEDLINE DUPLICATE 4  
AN 9214891 MEDLINE

DN 9214891

TI The dominant linear neutralizing antibody-binding site of

\*\*\*glycoprotein\*\*\* gp86 of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\*

is strain specific.

AU Urban M; Britz W; Mach M

CS Institut für Klinische und Molekulare Virologie,

Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany.

NC 1 R01 HD10699 (NICHD)

1 R01 AI30105 (NIH/ID)

SO JOURNAL OF VIROLOGY, (1992 Mar) 66 (3) 1303-11.

Journal code: KCV. ISSN: 0022-538X.

CY United States

DT Journal: Article. (JOURNAL ARTICLE)

LA English

FS Cancer Journals: Priority Journals

EM 199205

AB Bacterial fusion proteins, constructed from overlapping fragments of

the open reading frame coding for gp86 of \*\*\*human\*\*\*

\*\*\*cytomegalovirus\*\*\* (HCMV) strain \*\*\*AD169\*\*\*, were used to

localize antigenic regions recognized by antibodies from

\*\*\*human\*\*\* convalescent sera. A major domain for binding of

conformation-independent antibodies was localized on fusion protein

AP86, containing amino acids 15 to 142 of gp86. \*\*\*human\*\*\*

antibodies, affinity purified on AP86, neutralized infectious virus

in tissue culture. In addition, a mouse \*\*\*monoclonal\*\*\*

antibody (AP86-5A4), raised against AP86, also neutralized HCMV.

AP86-5A4 was reactive with viral gp86 in immunoblot assays and

showed a plasma membrane staining on intact HCMV-infected

fibroblasts late in infection. After exonuclease III deletions of

the viral gene, the binding site of neutralizing \*\*\*human\*\*\* as

well as mouse antibodies was localized between amino acid residues

34 and 43. The domain has sequence variation between laboratory

strains \*\*\*AD169\*\*\* and Towne, and binding of the antibodies was

strain specific. To our knowledge, this is the first

characterization of a strain-specific neutralizing epitope on HCMV.

L26 ANSWER 7 OF 21 MEDLINE DUPLICATE 5  
AN 92341082 MEDLINE

DN 92341082

TI The amino terminus of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\*

\*\*\*glycoprotein\*\*\* B contains epitopes that vary among strains.

AU Basgoz N; Qadri I; Navarro D; Sears A; Lemerette E; Youngblood J;

Peterson L

CS Division of Oral Biology, School of Dentistry, University of

California, San Francisco 94143..

NC A123592 (NIH/AD)

A130873 (NIH/AD)

A124009 (NIH/AD)

+

SO JOURNAL OF GENERAL VIROLOGY, (1992 Apr) 73 (P 4) 983-8.

Journal code: 19B. ISSN: 0022-1317.

CY ENGLAND: United Kingdom

DT Journal: Article. (JOURNAL ARTICLE)

LA English

FS Priority Journals: Cancer Journals

EM 199210

AB We mapped three antigenic domains of continuous epitopes on

\*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* ( \*\*\*CMV\*\*\* )

\*\*\*glycoprotein\*\*\* B (gB) by reacting a panel of independently

derived \*\*\*monoclonal\*\*\* antibodies with deletion mutants

expressed transiently in COS-1 cells. One of these antigenic

domains, DC2, maps in the last 75 amino acids of the carboxy

terminus. These epitopes are conserved in strains Towne and

\*\*\*AD169\*\*\*, as well as in 19 clinical \*\*\*CMV\*\*\* isolates.

ELISAs of DC2-reactive antibodies with a set of overlapping

synthetic oligopeptides from the carboxy terminus showed that the

epitopes of antibodies CH405-1 and CH421-5 map between amino acids

833 and 852 and that the epitope of antibody CH28-2 maps between

amino acids 878 and 898. These linear epitopes were grouped into

domain DC3. The third antigenic domain, DC1V, maps at the

amino-terminal end of \*\*\*CMV\*\*\* strain \*\*\*AD169\*\*\* gB but is

not contained in strain Towne or in 17 of 19 clinical isolates.

Epitopes in this domain are likely to map between amino acids 28 and

67, an area where differences occur in the nucleotide sequence of

the gB genes from \*\*\*AD169\*\*\* and Towne. Analysis of \*\*\*CMV\*\*\*

-infected cells by flow cytometry with antibodies to the amino- and

carboxy-terminal domains revealed that the amino terminus of gB is

extracellular and that the carboxy terminus is not exposed on the cell surface.

L26 ANSWER 8 OF 21 MEDLINE DUPLICATE 6

AN 91245165 MEDLINE  
DN 91245165  
TI Analysis of interstrain variation in \*\*\*cytomegalovirus\*\*\*  
\*\*\*glycoprotein\*\*\* B sequences encoding neutralization-related epitopes

AU Chou S W; Demision K M  
CS Medical Service, VA Medical Center, Portland, OR 97207.  
SO JOURNAL OF INFECTIOUS DISEASES, (1991 Jun) 163 (6) 1229-34.  
Journal code: JIH3 ISSN: 0022-1899.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Abidged Index Medicus Journals; Priority Journals  
OS GENBANK-M60927; GENBANK-M60924; GENBANK-M60925; GENBANK-M60926; GENBANK-M60928; GENBANK-M60929; GENBANK-M60930; GENBANK-M60931; GENBANK-M60932; GENBANK-M60933; GENBANK-M60934

EM 199109  
AB Nucleotide sequences of a part of the envelope \*\*\*glycoprotein\*\*\* B (gB) gene of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* (\*\*\*CMV\*\*\*), encoding epitopes recognized by virus-neutralising \*\*\*monoclonal\*\*\* antibodies, were determined for 12 distinct clinical strains of \*\*\*CMV\*\*\* after amplification of suitable templates using the polymerase chain reaction. Sequence analysis of this region (codons 384-717) revealed that the clinical strains and previously sequenced laboratory strains Towne and \*\*\*AD169\*\*\* belong to one of four variant groups, each with a characteristic nucleotide and peptide sequence. Peptide homology was greater than 99% for strains within a group, and varied from 91% to 98% for strains in different groups. Variation was most frequent between codons 448 and 480. The gB group of a \*\*\*CMV\*\*\* strain could be determined by restriction analysis of a small target sequence amplified from viral genomic DNA, and an additional 28 clinical strains were grouped in this manner. The existence of a limited number of variants of gB among clinical strains facilitates analysis of biologic function and cross-reactivity of immune responses.

L26 ANSWER 9 OF 21 MEDLINE DUPLICATE 7

AN 91361569 MEDLINE  
DN 91361569  
TI \*\*\*Human\*\*\* \*\*\*cytomegalovirus\*\*\* strain Towne pp28 gene: sequence comparison to pp28 of HCMV \*\*\*AD169\*\*\* and stable expression in Chinese hamster ovary cells  
AU Pandé H; Campo K; Tanamachi B; Zala J A  
CS Division of Immunology, Beckman Research Institute of the City of Hope, Duarte, California 91010.  
NC CA30206 (NCI)  
CA33572 (NCI)  
SO VIROLOGY, (1991 Oct) 184 (2) 762-7.  
Journal code: XEA ISSN: 0042-6822.

CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals; Cancer Journals  
OS GENBANK-M73441  
EM 199112  
AB \*\*\*Human\*\*\* \*\*\*cytomegalovirus\*\*\* (HCMV) contains a 28-kDa (pp28) matrix \*\*\*phosphoprotein\*\*\* which has been shown to be highly immunogenic in humans. We have cloned and sequenced the gene

encoding pp28 of HCMV Towne strain (pp28Towne) and have expressed this gene in stable Chinese hamster ovary (CHO) cell lines in order to examine the structural, functional, and antigenic properties of this protein. The pp28Towne gene had 99% nucleotide and 98.4% amino acid similarity to the pp28 gene of HCMV \*\*\*AD169\*\*\* strain (pp28AD169). We identified three amino acid substitutions (Gln70 to Ser70, Ser76 to Asn76, and Thr85 to Ala85) in pp28Towne, all clustered in a short 16 amino acid stretch located in the N-terminal half of the protein. The pp28Towne gene was expressed in CHO cells using a vector in which transcription was driven by a \*\*\*human\*\*\* beta-actin promoter. The expressed protein, having an electrophoretic mobility similar to that of HCMV-derived pp28, reacted strongly in immunoblot analysis with pp28-specific murine \*\*\*monoclonal\*\*\* antibodies as well as HCMV-seropositive \*\*\*human\*\*\* sera.

L26 ANSWER 10 OF 21 CAPLUS COPYRIGHT 1998 ACS

AN 1992:421241 CAPLUS  
DN 117:21241  
TI \*\*\*Human\*\*\* \*\*\*cytomegalovirus\*\*\* strain Towne pp65 gene: nucleotide sequence and expression in *Escherichia coli*  
AU Pandé, Hems, Campo, Karlene, Tanamachi, Becky, Zala, John A.  
CS Div. Immunol, Beckman Res. Inst. City of Hope, Duarte, CA, 91010, USA  
SO Virology (1991), 182(1), 220-8  
CODEN: VIRLAX; ISSN: 0042-6822

DT Journal  
LA English  
AB The \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* (HCMV) encodes a 65-kDa tegument protein (pp65), which has been reported to be a target of immune response during natural infection. The authors cloned and sequenced the gene encoding pp65 of HCMV Towne strain (pp65Towne), and have expressed this gene in *E. coli* in order to study certain antigenic and structural properties of this polypeptide. The pp65Towne gene has a 99% nucleotide similarity and 99.7% amino acid similarity to pp65 of HCMV \*\*\*AD169\*\*\* strain (pp65AD169). However, unlike the pp65AD169 gene, the pp65Towne gene was found to be incapable of undergoing RNA splicing due to a base substitution in the crit. 3' splice-acceptor site. Insertion of this protein coding sequence into the bacterial expression plasmids enabled synthesis in *E. coli* of an immunoreactive pp65-related polypeptide. The recombinant pp65 (pp65) reacted strongly in immunoblot anal. with pp65-specific murine and \*\*\*human\*\*\* \*\*\*monoclonal\*\*\* antibodies as well as anti-pp65 rabbit antiserum. In immunoblot anal., the reactivity of pp65 with a panel of \*\*\*human\*\*\* HCMV-immune sera indicated that some sera were reactive while other HCMV seropos. sera were nonreactive, a finding similar to that for native pp65.

L26 ANSWER 11 OF 21 CAPLUS COPYRIGHT 1998 ACS

AN 1992:329479 CAPLUS  
DN 117:129479  
TI Characterization of linear antigenic sites on \*\*\*glycoprotein\*\*\* gp86 of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\*  
AU Urban, Margit; Britz, William J.; Mach, Michael  
CS Inst. Klin. Mol. Virol., Univ. Erlangen-Nuernberg, Erlangen, 8520, Germany  
SO Int. Congr. Ser. - Excerpta Med (1991), 978/Prog. Cytomegalovirus Res.), 199:202  
CODEN: EXMDA4; ISSN: 0531-5131  
DT Journal  
LA English  
AB AP86, a gp86 fusion protein, of the \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* (HCMV) contains domains capable of binding \*\*\*human\*\*\* antibodies in a conformation independent manner. The

resp. area is located between amino acids 15 and 142 on HCMV strain \*\*\*AD169\*\*\*. Using bacterially derived gp86 fusion protein as antigen a \*\*\*monoclonal\*\*\* antibody was developed which was reactive with the viral protein under denaturing conditions and was able to neutralize HCMV \*\*\*AD169\*\*\* in vitro.

L26 ANSWER 12 OF 21 CAPLUS COPYRIGHT 1998 ACS

AN 1990:476471 CAPLUS  
DN 113:76471  
TI Immune-gene C-11 glycoproteins of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\*  
IN Kun, Bruce E.; Geluz, Richard C.  
PA Children's Hospital, Inc., USA  
SO PCT Int. Appl., 35 pp.  
CODEN: PIXXD2  
PI WO 9001497 A1 900222  
DS W; AT, AU, BR, BG, CH, DE, DK, FI, GB, HU, JP, KP, KR, LK, LU, MC, MG, MW, NL, NO, RO, SD, SE, SU  
RW: AT, BE, BF, BJ, CF, CG, CH, CM, DE, FR, GA, GB, IT, LU, ML, MR, NL, SE, SN, TD, TG  
A1 WO 89-053008 890712  
PRAI US 88-227622 880803  
DT Patent  
LA English

AB A substantially pure immunogenic \*\*\*glycoprotein\*\*\* complex from the membrane envelope of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* (heny) comprises a, appr. 50-52 kildalton (kD) \*\*\*glycoprotein\*\*\* which reacts with the \*\*\*monoclonal\*\*\* antibody 9E10 produced by hybridoma 1V1-10118, the complex mol. wt. is >200 kD or appr. 93 kD. A hydridoma produces a \*\*\*monoclonal\*\*\* antibody which reacts with the Towne and Toledo strains of henry while not significantly crossreacting with the \*\*\*AD169\*\*\* strain, and which immunoprecip. 93 and 200 kD C-11 glycoproteins. Prodn. of \*\*\*monoclonal\*\*\* antibodies and purifi. and characterization of the glycoproteins by sid. techniques are described.

L26 ANSWER 13 OF 21 CAPLUS COPYRIGHT 1998 ACS

AN 1990:173633 CAPLUS  
DN 112:173633  
TI \*\*\*Human\*\*\* \*\*\*cytomegalovirus\*\*\* protein similar to vertebrate MHC class I antigen for use in vaccination and diagnosis  
IN Barrall, Barclay George; Beck, Stephan; Minson, Anthony C.; Smith, Geoffrey Lilley; Cranage, Martin Patrick  
PA Cogen Ltd., UK  
SO PCT Int. Appl., 26 pp.  
CODEN: PIXXD2  
PI WO 890555 A1 890629  
DS W; JP, US  
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE  
A1 WO 88-GB1112 881215  
PRAI GB 87-29251 871215  
DT Patent  
LA English  
AB A \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* (HCMV) protein similar to vertebrate MHC class I antigen is identified and the gene encoding it is cloned, sequenced, and expressed in bacteria and mammalian cells. The recombinant protein can be used for vaccination, for prepn. of antibodies, and for diagnosis of HCMV infection. The HCMV protein has 3 domains, a putative extracellular domain contg. 3 alpha regions, a transmembrane domain, and an intracellular region, which, unlike the extracellular region, shows no significant similarity to the MHC class I antigens. The protein was produced as a beta-galactoside fusion protein in *Escherichia coli* and in CV-1 cells using vaccinia virus expression vectors.

L26 ANSWER 14 OF 21 MEDLINE  
AN 89279278 MEDLINE  
DN 89279278  
TI A major neutralizing domain maps within the carboxyl-terminal half of the cleaved \*\*\*cytomegalovirus\*\*\* B \*\*\*glycoprotein\*\*\*  
AU Banks T, Huo B, Kousoulas K, Spaete R, Pacht C, Peretin L  
CS Department of Stomatology, School of Dentistry, University of California, San Francisco 94143.  
NC A123592 (NIAID)  
DE08275 (NIDR)  
HL33811 (NHLBI)  
SO JOURNAL OF GENERAL VIROLOGY. (1989 Apr) 70 ( Pt 4) 979-85.  
Journal code: 198. ISSN: 0022-1317.  
CY ENGLAND: United Kingdom  
DT Journal: Article. (JOURNAL ARTICLE)  
LA English  
FS Priority Journals; Cancer Journals  
EM 198309  
AB \*\*\*Cytomegalovirus\*\*\* ( \*\*\*CMV\*\*\* ) encodes several glycoproteins reported to be structural homologues of glycoproteins encoded by herpes simplex virus type 1 (HSV-1). To map the antigenic and functional domains on the 907 amino acid \*\*\*CMV\*\*\*  
\*\*\*glycoprotein\*\*\* B (gB), we cloned and expressed a subfragment of BamHI fragment R of the \*\*\*CMV\*\*\* (Towne) genome into an expression vector and reacted the resulting gene product with a panel of \*\*\*monoclonal\*\*\* antibodies. Our results showed that the DNA fragment encodes related glycoproteins which we previously designated gA and which others have reported to be homologous to HSV-1 gB in \*\*\*CMV\*\*\* ( \*\*\*AD169\*\*\* ). Analyses of the processing of \*\*\*CMV\*\*\* gB transiently expressed in eukaryotic cells showed that glycosylation occurred independently of viral infection. Ten antibodies with complement-dependent and independent neutralizing activity reacted with a truncated derivative of gB that contained 619 amino-terminal residues but lacked the transmembrane and intracellular regions of the molecule. Twelve additional antibodies reacted with a CHO cell line expressing a 680 amino-terminal derivative of gB. All of the reactive antibodies precipitated the 447 residue carboxy-terminal cleavage product of gB from extracts of \*\*\*CMV\*\*\*-infected cells. These results showed that the neutralizing epitopes map in at least two domains of gB which are located in a discontinuous segment of 219 amino acids between residues 461 and 680 from the amino terminus of the molecule.

L26 ANSWER 15 OF 21 MEDLINE DUPLICATE 8  
AN 89204913 MEDLINE  
DN 89204913  
TI The \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* strain Towne \*\*\*glycoprotein\*\*\* H gene encodes \*\*\*glycoprotein\*\*\* p86.  
AU Pacht C, Probert W S, Hermans K M, Maslusz F R, Rasmussen L, Merigan  
T C, Spaete R R  
CS Chiron Corporation, Emeryville, California 94608.  
SO VIROLOGY. (1989 Apr) 169 (2) 415-26.  
Journal code: XEA. ISSN: 0042-6822.  
CY United States  
DT Journal: Article. (JOURNAL ARTICLE)  
LA English  
FS Cancer Journals; Priority Journals  
OS GENBANK-M23271  
EM 198307  
AB The gene encoding the \*\*\*glycoprotein\*\*\* H (gH) homologue of predicted 742 amino acid gH protein had characteristics typical of a membrane \*\*\*glycoprotein\*\*\* including hydrophobic signal and

transmembrane domains and six possible N-linked glycosylation sites. The \*\*\*CMV\*\*\* (Towne) gH gene had a 95% nucleotide identity and a 96.6% amino acid identity with the \*\*\*CMV\*\*\* ( \*\*\*AD169\*\*\* ) gH gene, as described by M. P. Cramme, G. L. Smith, S. E. Bell, H. Hart, C. Brown, A. T. Bankier, P. Tomlinson, B. G. Barrell, and T. C. Minson (1988, J. Virol. 62, 1416-1422). Transcriptional analysis of the gH gene revealed that the 2.9-kilobase (kb) gH transcript was not detected until late after \*\*\*CMV\*\*\* infection, indicating that the kinetics of gH expression were typical of the late class of \*\*\*CMV\*\*\* genes. The gH gene was expressed in COS cells using a vector in which transcription was driven by the SV40 early promoter. The expression of gH was detected by immunofluorescence using the virus neutralizing murine \*\*\*monoclonal\*\*\* antibody 1G6, which is specific for an 86-kilodalton (kDa) \*\*\*CMV\*\*\* vitron membrane protein (p86). Amino acid sequence analysis of p86 tryptic peptides revealed sequence identity with peptides from the deduced gH amino acid sequence, confirming that the gH gene encodes p86. These results indicate that \*\*\*CMV\*\*\* gH can induce virus neutralizing antibodies and establishes gH as a candidate antigen for a subunit vaccine against \*\*\*CMV\*\*\*.

L26 ANSWER 16 OF 21 MEDLINE DUPLICATE 9  
AN 90095454 MEDLINE  
DN 90095454  
TI Complement-independent neutralising \*\*\*monoclonal\*\*\* antibody with differential reactivity for strains of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\*  
AU Baboonian C, Blake K, Booth J C, Wilkin C N  
CS Department of Medical Microbiology, St. George's Hospital Medical School, University of London, England.  
SO JOURNAL OF MEDICAL VIROLOGY. (1989 Oct) 29 (2) 139-45.  
Journal code: 19N. ISSN: 0146-6615.  
CY United States  
DT Journal: Article. (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 199004  
AB A mouse \*\*\*monoclonal\*\*\* antibody with complement-independent neutralising activity against \*\*\*cytomegalovirus\*\*\* ( \*\*\*CMV\*\*\* ) and reactive with the 86 kilodalton (kDa) viral \*\*\*glycoprotein\*\*\* H is described. Neutralisation tests against a range of different strains of \*\*\*CMV\*\*\* showed significant cross-reactivity, but clear differences were evident between the two prototype viruses \*\*\*AD169\*\*\* and Davis, and particularly between \*\*\*AD169\*\*\* and several low-passage recent clinical isolates. \*\*\*CMV\*\*\* present in urine was neutralised weakly if at all.

L26 ANSWER 17 OF 21 MEDLINE DUPLICATE 10  
AN 88230581 MEDLINE  
DN 88230581  
TI Identification and procaryotic expression of the gene coding for the highly immunogenic 28-kilodalton structural \*\*\*phosphoprotein\*\*\* (pp28) of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\*  
AU Meyer H, Bankier A T, Landini M P, Brown C M, Barrell B G, Ruger B, Mach M  
CS Institut für Klinische und Molekulare Virologie, Universität Erlangen-Nürnberg, Federal Republic of Germany.  
SO JOURNAL OF VIROLOGY. (1988 Jul) 62 (7) 2243-50.  
Journal code: KCV. ISSN: 0022-538X.  
CY United States  
DT Journal: Article. (JOURNAL ARTICLE)  
LA English  
FS Priority Journals; Cancer Journals  
OS GENBANK-M21013

EM 198809  
AB \*\*\*Human\*\*\* \*\*\*cytomegalovirus\*\*\* contains a structural polypeptide that is 28 kilodalton in apparent molecular size and is reactive in Western blot (immunoblot) analysis with the majority of \*\*\*human\*\*\* sera. The gene coding for this polypeptide was mapped on the genome of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* strain \*\*\*AD169\*\*\*. A \*\*\*monoclonal\*\*\* antibody specific for the 28-kilodalton polypeptide was used to screen a cDNA library constructed from poly(A)<sup>+</sup> RNA of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\*-infected cells in the procaryotic expression vector lambda gt11. Hybridization of cDNA with cosmid and plasmid clones mapped the gene to the HindIII R fragment. The gene was transcribed into a late 1.3-kilobase RNA. The nucleotide sequence of the coding region was determined. Parts of the 28-kilodalton polypeptide were expressed in *Escherichia coli* as hybrid proteins fused to beta-galactosidase. In Western blots these proteins were recognized by \*\*\*human\*\*\* sera. Antibodies raised against the hybrid proteins reacted specifically with the viral antigen in immunoprecipitations and Western blots. In vitro phosphorylation of HCMV virions and immunoprecipitation showed that the 28-kilodalton polypeptide was phosphorylated.

L26 ANSWER 18 OF 21 CAPLUS COPYRIGHT 1998 ACS  
AN 1986201438 CAPLUS  
DN 108-201438  
TI Characterization of two different \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* glycoproteins which are targets for virus neutralizing antibody  
AU Rasmussen, Lucy; Nelson, Margaret; Neff, Margaret; Merigan, Thomas C., Jr.  
CS Sch. Med., Stanford Univ., Stanford, CA. 94305, USA  
SO VIROLOGY. (1988). 163(2). 308-18  
CODEN: VIRLAX. ISSN: 0042-6822  
DT Journal  
LA English  
AB In previous studies two viral polypeptides detected by murine \*\*\*monoclonal\*\*\* antibodies which neutralize the infectivity of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* ( \*\*\*CMV\*\*\* ) \*\*\*AD\*\*\*169 were identified. One is an 86,000-Da polypeptide (p86) and the second is a complex of two major communiting polypeptides of 130,000 and 55,000 Da (p 130/55). In this study it was shown that the two viral polypeptides are immuno- unrelated and have distinct peptide cleavage patterns. These polypeptides were characterized as glycoproteins and their biosynthesis studied in \*\*\*human\*\*\* embryonic lung cells. The oligosaccharides found on both the p86 and the p130/55 were characterized by endoglycosidase digestion as N-linked high-mannose carbohydrates. Inhibitors of glycosylation were used to further characterize the oligosaccharides. Tunicamycin, which inhibits the biosynthesis of N-linked oligosaccharides on the endoplasmic reticulum, inhibited both the infectivity and biosynthesis of the p86 and p130/55. The underglycosylated forms in tunicamycin-treated cultures could be detected only under conditions of pulse-labeling with L-[35S]methionine. Monensin, which inhibits the modification of glycoproteins from simple to complex forms in the Golgi, reduced viral infectivity at concentrations which had no effect on viral protein synthesis, but did not alter the apparent mol. wt. of either the p86 or the p130/55. The oligosaccharides were cut, for the *in vitro* immuno- reactivity of the p86 in immunoblots. However, endoglycosidase F-treated p86 was comparable to the native form in inducing virus neutralizing antibody in guinea pigs. Endoglycosidase F-treated p130/55 retained its ability to bind antibody in Western blots.

L26 ANSWER 19 OF 21 MEDLINE DUPLICATE 11

AN 89045645 MEDLINE  
DN 89045645  
TI \*\*\*Human\*\*\* \*\*\*cytomegalovirus\*\*\* strain Towne  
\*\*\*glycoprotein\*\*\* B is processed by proteolytic cleavage.  
AU Spaete R.R., Thayer R.M., Probst W.S., Mainzer F.R., Chamberlain S.H., Rasmussen L., Mengon T.C., Pach C.  
CS Chiron Corporation, Emeryville, California 94608.  
SO VIROLOGY. (1988 Nov) 167 (1) 207-25.  
Journal code: XEA. ISSN: 0042-6822.

CY United States  
DT Journal, Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals; Cancer Journals  
OS GENBANK-M22343  
EM 198902

AB The gene encoding \*\*\*glycoprotein\*\*\* B of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* ( \*\*\*CMV\*\*\* ) strain Towne was cloned, sequenced, and expressed in order to study potential targets for viral neutralization. Secondary structure analysis of the 907 amino acid protein predicted a 24 amino acid N-terminal signal sequence and a potential transmembrane region composed of two domains, 34 and 21 amino acids. The \*\*\*CMV\*\*\* (Towne) gB gene had a 94% nucleotide similarity and a 95% amino acid similarity to the \*\*\*CMV\*\*\* ( \*\*\*AD169\*\*\* ) gB gene [as described by M.P. Canage et al. (1986, EMBO J. 5, 3057-3063)]. Transcriptional analysis of the \*\*\*CMV\*\*\* (Towne) gB coding strand revealed that the gB message (3.9 kb), was transcribed from this region as early as 4 hr postinfection, and well in advance of gB protein synthesis. Full-length and truncated versions of the gB gene were expressed in COS cells using expression vectors where transcription was driven by the SV40 early promoter or the \*\*\*CMV\*\*\* major immediate early promoter. Expression was detected by immunofluorescence and ELISA using the virus neutralizing murine \*\*\*monoclonal\*\*\* antibody 15D8 (L. Rasmussen, J. Muller, R. Nelson, and T.C. Mengon, 1985, J. Virol. 55, 274-280). This antibody had been shown previously to recognize a 55-kDa \*\*\*CMV\*\*\* vitron protein and a related 130-kDa intracellular precursor. Amino acid sequence analysis of the N-terminus of the 55-kDa viral \*\*\*glycoprotein\*\*\* (gp55) showed that gp55 is derived from gB (gp130) by proteolytic cleavage and represents the C-terminal region of gp130. The truncated version of gB expressed in COS and CHO cells was also processed by proteolytic cleavage as demonstrated by Western blotting. Our study localizes the epitope recognized by 15D8 to within a 186 amino acid fragment of the gp55 protein. These results indicate that \*\*\*CMV\*\*\* gB is a target for neutralization and establishes gp55 as a candidate component for use in a subunit vaccine.

L26 ANSWER 20 OF 21 MEDLINE  
AN 86253169 MEDLINE  
DN 86253169  
TI Mapping of the major \*\*\*glycoprotein\*\*\* gene of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\*  
AU Mach M., Ute U., Fleckenstein B.  
SO JOURNAL OF GENERAL VIROLOGY. (1986 Jul) 67 ( Pt 7) 1461-7.  
Journal code: I9B. ISSN: 0022-1317.

CY ENGLAND: United Kingdom  
DT Journal, Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals; Cancer Journals  
EM 198610

AB The gene coding for the most abundant \*\*\*glycoprotein\*\*\* (gp58) of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* (HCMV), strain \*\*\*AD169\*\*\*, was physically mapped on the viral genome. A monospecific rabbit antiserum against gp58 was used to screen a cDNA library that was constructed from poly(A)<sup>+</sup> RNA of HCMV-infected

cells in the prokaryotic expression vector lambda g11. A cDNA clone was identified which synthesized part of the \*\*\*glycoprotein\*\*\*. It allowed localization of the coding region within the right terminal sequence of the HindIII-F fragment between map coordinates 0.344 and 0.380 of HCMV virion DNA.

L26 ANSWER 21 OF 21 MEDLINE  
AN 84174099 MEDLINE  
DN 84174099  
TI Physical mapping of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* genes: identification of DNA sequences coding for a vitron  
\*\*\*phosphoprotein\*\*\* of 71 kDa and a viral 65-kDa polypeptide.  
AU Nowak B., Gmeiner A., Sarnow P., Levine A.J., Fleckenstein B.  
SO VIROLOGY. (1984 Apr 15) 134 (1) 91-102.  
Journal code: XEA. ISSN: 0042-6822.

CY United States  
DT Journal, Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals; Cancer Journals  
EM 198407

AB Polyadenylated RNA was isolated from fibroblast cultures infected with \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* (HCMV) strain \*\*\*AD169\*\*\* during the late phase of viral replication. The RNA was selected by hybridization to a series of cosmid clones containing the entire viral genome in partially overlapping segments. Translation of this RNA in a reticulocyte cell-free system allowed the mapping of virus specific polypeptides. Nine polypeptides synthesized in vitro comigrated with major virion structural proteins. An in vitro-translated protein of 71 kDa was precipitated by a \*\*\*monoclonal\*\*\* antibody directed against the phosphorylated internal envelope protein of 71 kDa. The map coordinates of viral DNA coding for this \*\*\*phosphoprotein\*\*\* were localized by hybrid selection with subcloned DNA fragments, and were localized by hybrid selection with subcloned DNA fragments, and the direction of transcription was determined by hybrid selection with single-stranded DNA cloned in bacteriophage vector M13mp9. An in vitro translation with size-fractionated RNA, combined with immunoprecipitation and Northern blot analysis, indicated that an mRNA of 4 kb encodes the 71-kDa \*\*\*phosphoprotein\*\*\*. An mRNA of the same size, map coordinates, and orientation was translated into an abundant 65-kDa polypeptide which had the same size as the major structural \*\*\*phosphoprotein\*\*\* of HCMV.

=> s "hind III R fragment"  
L27 0 "HIND III R FRAGMENT"  
=> d his

(FILE HOME ENTERED AT 09:25:04 ON 03 JUL 1998)

FILE MEDLINE, BIOSIS, CAPLUS ENTERED AT 09:25:17 ON 03 JUL 1998  
L1 47016 S CMV OR CYTOMEGALOVIRUS OR CYTOMEGALO  
VIRUS  
L2 68 S PR38  
L3 996 S \*AD169\* OR \*AD 169\*  
L4 6 S L1 AND L2 AND L3  
L5 2 DUP REM L4 (4 DUPLICATES REMOVED)  
L6 40 S L1 AND L2  
L7 15646 S "HINDIII" OR "HIND III"  
L8 2866 S "SVAT"  
L9 866 S L7 AND L8  
L10 0 S L9 AND L6  
L11 3 S L9 AND L1

L12 1 DUP REM L11 (2 DUPLICATES REMOVED)  
L13 938 S HUMAN AND L3  
L14 937 S L13 AND L1  
L15 168536 S GLYCOPROTEIN  
L16 24580 S PHOSPHOPROTEIN  
L17 0 S \*P2G11\*  
L18 344708 S MONOCLONAL OR \*MAB P2G11\*  
L19 192406 S L15 OR L16  
L20 125 S L19 AND L14  
L21 139 S L18 AND L14  
L22 0 S L21 AND \*MAB P2G11\*  
L23 43 S L21 AND L20  
L24 43 S L2 AND L23  
L25 43 S L24 AND HUMAN  
L26 21 DUP REM L25 (22 DUPLICATES REMOVED)  
L27 0 S "HIND III R FRAGMENT"

=> d 126 1-21

L26 ANSWER 1 OF 21 BIOSIS COPYRIGHT 1998 BIOSIS  
AN 97-414434 BIOSIS  
DN 99706477  
TI Identification of the gene coding for theus \*\*\*cytomegalovirus\*\*\*  
\*\*\*glycoprotein\*\*\* B and immunological analysis of the protein.  
AU Kropff B., Mach M.  
CS Institut für Klinische und Molekulare Virologie, Universitat  
Erlangen-Nürnberg, Schlossgarten 4, 91054 Erlangen, Germany  
SO Journal of General Virology 78 (8) 1997. 1999-2007. ISSN: 0022-1317  
LA English

L26 ANSWER 2 OF 21 MEDLINE  
AN 95088574 MEDLINE  
DN 95088574  
TI Intracellular localization and DNA-binding activity of a class of  
viral early phosphoproteins in \*\*\*human\*\*\* fibroblasts infected  
with \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* (Towne strain)  
AU Iwawana S., Yamamoto T., Furuya T., Kobayashi R., Ikawa K., Hirai K.  
CS Department of Cell Regulation, Tokyo Medical and Dental University,  
Japan.  
SO JOURNAL OF GENERAL VIROLOGY. (1994 Dec) 75 ( Pt 12) 3309-18.  
Journal code: I9B. ISSN: 0022-1317.

CY ENGLAND: United Kingdom  
DT Journal, Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals; Cancer Journals  
OS GENBANK-D26511  
EM 199503

L26 ANSWER 3 OF 21 CAPLUS COPYRIGHT 1998 ACS  
AN 1995-588262 CAPLUS  
DN 123-134808  
TI The antigenic and genomic variation of \*\*\*human\*\*\*  
\*\*\*cytomegalovirus\*\*\* (HCMV) isolated in Korea  
AU Hywang, Eung-Soo; Lee, Hong-Dock; Lim, Dong-Gyun; Seoh, Ju-Young;  
Park, Chung-Gyu; Park, Jae-Won; Jong, Hyun-Soon; Koek, Yoon-Hob;  
Lee, Hsiao-Jong, et al.  
CS College of Medicine, Seoul National Univ., Seoul, 110-799, S. Korea  
SO Taejan Misengnui Hakhoechi (1994), 29(6), 631-9  
CODEN: TMHCIX; ISSN: 0253-3162

DT Journal  
LA Korean

L26 ANSWER 4 OF 21 MEDLINE  
AN 95010975 MEDLINE  
DUPLICATE 2

DN 95010975  
 TI \*\*\*Human\*\*\* \*\*monoclonal\*\*\* anti- \*\*\*cytomegalovirus\*\*\*  
 ( \*\*\*CMV\*\*\* ) antibody (MSL 109), enhancement of in vitro  
 focarner- and ganciclovir-induced inhibition of \*\*\*CMV\*\*\*  
 replication.  
 AU Noka M, Tolpin M D, Nelder P I, Pollard R B  
 CS Department of Internal Medicine, University of Texas Medical Branch,  
 Galveston 77555.  
 SO ANTIVIRAL RESEARCH. (1994 May) 24 (1) 17-26.  
 Journal code: 617. ISSN: 0166-3542.  
 CY Netherlands  
 DT Journal: Article; (JOURNAL ARTICLE)  
 LA English  
 FS Priority Journals  
 EM 199301

L26 ANSWER 5 OF 21 MEDLINE DUPLICATE 3  
 AN 93019061 MEDLINE  
 DN 93019061  
 TI \*\*\*Glycoprotein\*\*\* gp116 of \*\*\*human\*\*\*  
 \*\*\*cytomegalovirus\*\*\* contains epitopes for strain-common and  
 strain-specific antibodies.  
 AU Meyer H, Sundqvist V A, Pereira L, Mach M  
 CS Institut für Klinische und Molekulare Virologie,  
 Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany.  
 SO JOURNAL OF GENERAL VIROLOGY. (1992 Sep) 73 ( Pt 9) 2375-83.  
 Journal code: 19B. ISSN: 0022-1317.  
 CY ENGLAND: United Kingdom  
 DT Journal: Article; (JOURNAL ARTICLE)  
 LA English  
 FS Cancer Journals; Priority Journals  
 EM 199301

L26 ANSWER 6 OF 21 MEDLINE DUPLICATE 4  
 AN 92148911 MEDLINE  
 DN 92148911  
 TI The dominant linear neutralizing antibody-binding site of  
 \*\*\*glycoprotein\*\*\* gp86 of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\*  
 is strain specific.  
 AU Urban M, Bhatt V, Mach M  
 CS Institut für Klinische und Molekulare Virologie,  
 Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany.  
 NC 1 PO1 HD10699 (NICHED)  
 I RO1 A130105 (NIAID)  
 SO JOURNAL OF VIROLOGY. (1992 Mar) 66 (3) 1303-11.  
 Journal code: KCV. ISSN: 0022-538X.  
 CY United States  
 DT Journal: Article; (JOURNAL ARTICLE)  
 LA English  
 FS Cancer Journals; Priority Journals  
 EM 199205

L26 ANSWER 7 OF 21 MEDLINE DUPLICATE 5  
 AN 92241082 MEDLINE  
 DN 92241082  
 TI The amino terminus of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\*  
 \*\*\*glycoprotein\*\*\* B contains epitopes that vary among strains.  
 AU Baggio N, Qadri I, Navarro D, Sears A, Lemette E, Youngblom J,  
 Pereira L  
 CS Division of Oral Biology, School of Dentistry, University of  
 California, San Francisco 94143.  
 NC A123592 (NIAID)  
 A130873 (NIAID)  
 A124009 (NIAID)  
 +

SO JOURNAL OF GENERAL VIROLOGY. (1992 Apr) 73 ( Pt 4) 983-8.  
 Journal code: 19B. ISSN: 0022-1317.  
 CY ENGLAND: United Kingdom  
 DT Journal: Article; (JOURNAL ARTICLE)  
 LA English  
 FS Priority Journals; Cancer Journals  
 EM 199210

L26 ANSWER 8 OF 21 MEDLINE DUPLICATE 6  
 AN 91245165 MEDLINE  
 DN 91245165  
 TI Analysis of interstrain variation in \*\*\*cytomegalovirus\*\*\*  
 \*\*\*glycoprotein\*\*\* B sequences encoding neutralization-related  
 epitopes.  
 AU Chou S W, Denison K M  
 CS Medical Service, VA Medical Center, Portland, OR 97207.  
 SO JOURNAL OF INFECTIOUS DISEASES. (1991 Jun) 163 (6) 1229-34.  
 Journal code: IH3. ISSN: 0022-1899.  
 CY United States  
 DT Journal: Article; (JOURNAL ARTICLE)  
 LA English  
 FS Abridged Index Medicus Journals; Priority Journals  
 OS GENBANK-M60923; GENBANK-M60924; GENBANK-M60925;  
 GENBANK-M60926;  
 GENBANK-M60927; GENBANK-M60928; GENBANK-M60929;  
 GENBANK-M60930;  
 GENBANK-M60931; GENBANK-M60932; GENBANK-M60933;  
 GENBANK-M60934  
 EM 199109

L26 ANSWER 9 OF 21 MEDLINE DUPLICATE 7  
 AN 91361569 MEDLINE  
 DN 91361569  
 TI \*\*\*Human\*\*\* \*\*\*cytomegalovirus\*\*\* strain Towne pp28 gene:  
 sequence comparison to pp28 of HCMV \*\*\*AD169\*\*\* and stable  
 expression in Chinese hamster ovary cells.  
 AU Pande H, Campo K, Tannamchi B, Zala J A  
 CS Division of Immunology, Beckman Research Institute of the City of  
 Hope, Duarte, California 91010.  
 NC CA30206 (NCI)  
 CA33572 (NCI)  
 SO VIROLOGY. (1991 Oct) 184 (2) 762-7.  
 Journal code: XEA. ISSN: 0042-6822.  
 CY United States  
 DT Journal: Article; (JOURNAL ARTICLE)  
 LA English  
 FS Priority Journals; Cancer Journals  
 OS GENBANK-M73441  
 EM 199112

L26 ANSWER 10 OF 21 CAPLUS COPYRIGHT 1998 ACS  
 AN 1992.421241 CAPLUS  
 DN 117.21241  
 TI \*\*\*Human\*\*\* \*\*\*cytomegalovirus\*\*\* strain Towne pp65 gene:  
 nucleotide sequence and expression in Escherichia coli.  
 AU Pande, Hema; Campo, Karlene; Tannamchi, Becky; Zala, John A.  
 CS Div. Immunol., Beckman Res. Inst. City of Hope, Duarte, CA, 91010,  
 USA  
 SO Virology (1991), 182(1), 220-8  
 CODEN: VIRLAX. ISSN: 0042-6822  
 DT Journal  
 LA English

L26 ANSWER 11 OF 21 CAPLUS COPYRIGHT 1998 ACS  
 AN 1992.529479 CAPLUS

DN 117.129479  
 TI Characterization of linear antigenic sites on \*\*\*glycoprotein\*\*\*  
 gp86 of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\*  
 AU Urban, Margit; Bhatt, William J.; Mach, Michael  
 CS Inst. Klin. Mol. Virol., Univ. Erlangen-Nürnberg, Erlangen, 8520,  
 Germany  
 SO Int. Congr. Ser. - Excerpta Med. (1991), 978(Prog. Cytomegalovirus  
 Res.), 199:202  
 CODEN: EXMDA4. ISSN: 0531-5131  
 DT Journal  
 LA English

L26 ANSWER 12 OF 21 CAPLUS COPYRIGHT 1998 ACS  
 AN 1990.476471 CAPLUS  
 DN 113.76471  
 TI Immunogenic C-11 glycoproteins of \*\*\*human\*\*\*  
 \*\*\*cytomegalovirus\*\*\*  
 IN Kan, Bruce E.; Geitz, Richard C.  
 PA Children's Hospital, Inc., USA  
 SO PCT Int. Appl., 35 pp.  
 CODEN: PIXXD2  
 PI WO 9001497 A1 900222  
 DS W: AT, AU, BB, BG, BR, CH, DE, DK, FI, GB, HU, JP, KP, KR, LK, LU,  
 MC, MG, MW, NL, NO, RO, SD, SE, SU  
 RW: AT, BE, BF, BJ, CF, CG, CH, CM, DE, FR, GA, GB, IT, LU, ML, MR,  
 NL, SE, SN, TD, TG  
 AI WO 89.03008 890712  
 PRAI US 88-277622 880803  
 DT Patent  
 LA English

L26 ANSWER 13 OF 21 CAPLUS COPYRIGHT 1998 ACS  
 AN 1990.173633 CAPLUS  
 DN 112.173633  
 TI \*\*\*Human\*\*\* \*\*\*cytomegalovirus\*\*\* protein similar to  
 vertebrate MHC class I antigen for use in vaccination and diagnosis  
 IN Barrell, Barclay George; Beck, Stephen; Minson, Anthony C.; Smith,  
 Geoffrey; Lilley, Cramie; Martin Patrick  
 PA Cogent Ltd., UK  
 SO PCT Int. Appl., 26 pp.  
 CODEN: PIXXD2  
 PI WO 8905855 A1 890629  
 DS W: JP, US  
 RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE  
 AI WO 88-GB11112 881215  
 PRAI GB 87-29251 871215  
 DT Patent  
 LA English

L26 ANSWER 14 OF 21 MEDLINE  
 AN 89279278 MEDLINE  
 DN 89279278  
 TI A major neutralizing domain maps within the carboxyl-terminal half  
 of the cleaved \*\*\*cytomegalovirus\*\*\* B \*\*\*glycoprotein\*\*\*.  
 AU Banks T, Huo B, Kousoulas K, Spate R, Pedt C, Perera L  
 CS Department of Stomatology, School of Dentistry, University of  
 California, San Francisco 94143.  
 NC A123592 (NIAID)  
 DE08275 (NIDR)  
 HLJ3811 (NHLBI)  
 SO JOURNAL OF GENERAL VIROLOGY. (1989 Apr) 70 ( Pt 4) 979-85.  
 Journal code: 19B. ISSN: 0022-1317.  
 CY ENGLAND: United Kingdom  
 DT Journal: Article; (JOURNAL ARTICLE)  
 LA English

FS Priority Journals; Cancer Journals  
EM 198909

L26 ANSWER 15 OF 21 MEDLINE DUPLICATE 8  
AN 89204913 MEDLINE  
DN 89204913  
TI The \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* strain Towne  
\*\*\*cytomegalovirus\*\*\* H gene encodes \*\*\*glycoprotein\*\*\* p86,  
AU Pechl C; Probert W S; Hermans K M; Mastarz F R; Rasmussen L;  
Mertgen  
T C; Spaete R R  
CS Chiron Corporation, Emeryville, California 94608.  
SO VIROLOGY. (1989 Apr) 169 (2) 418-26.  
Journal code: XEA. ISSN: 0042-6822.

CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Cancer Journals; Priority Journals  
OS GENBANK-M25271  
EM 198907

L26 ANSWER 16 OF 21 MEDLINE DUPLICATE 9  
AN 90095454 MEDLINE  
DN 90095454  
TI Complement-independent neutralising \*\*\*monoclonal\*\*\* antibody  
with differential reactivity for strains of \*\*\*human\*\*\*  
\*\*\*cytomegalovirus\*\*\*  
AU Baboonian C; Blake K; Booth J C; Whlin C N  
CS Department of Medical Microbiology, St. George's Hospital Medical  
School, University of London, England.  
SO JOURNAL OF MEDICAL VIROLOGY. (1989 Oct) 29 (2) 139-45.  
Journal code: JPN. ISSN: 0146-6615.

CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 199004

L26 ANSWER 17 OF 21 MEDLINE DUPLICATE 10  
AN 88230581 MEDLINE  
DN 88230581  
TI Identification and procaryotic expression of the gene coding for the  
highly immunogenic 28-kilodalton structural \*\*\*phosphoprotein\*\*\*  
(pp28) of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\*  
AU Meyer H; Bankier A T; Landini M P; Brown C M; Barrell B G; Ruger B;  
Mach M  
CS Institut für Klinische und Molekulare Virologie, Universität  
Erlangen-Nürnberg, Federal Republic of Germany..  
SO JOURNAL OF VIROLOGY. (1988 Jul) 62 (7) 2243-50.  
Journal code: KCV. ISSN: 0022-538X.

CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals; Cancer Journals  
OS GENBANK-M21013  
EM 198809

L26 ANSWER 18 OF 21 CAPLUS COPYRIGHT 1998 ACS  
AN 1988-201438 CAPLUS  
DN 108-201438  
TI Characterization of two different \*\*\*human\*\*\*  
\*\*\*cytomegalovirus\*\*\* glycoproteins which are targets for virus  
neutralizing antibody  
AU Rasmussen, Lucy; Nelson, Margaret; Neft, Margaret; Mertgen, Thomas  
C., Jr.

CS Sch. Med., Stanford Univ., Stanford, CA, 94305, USA  
SO Virology (1988), 165(2), 308-18  
CODEN: VIRLAX; ISSN: 0042-6822  
DT Journal  
LA English

L26 ANSWER 19 OF 21 MEDLINE DUPLICATE 11  
AN 89045645 MEDLINE  
DN 89045645  
TI \*\*\*Human\*\*\* \*\*\*cytomegalovirus\*\*\* strain Towne  
\*\*\*glycoprotein\*\*\* B is processed by proteolytic cleavage.  
AU Spaete R R; Thayer R M; Probert W S; Mastarz F R; Chamberlain S H;  
Rasmussen L; Mertgen T C; Pechl C  
CS Chiron Corporation, Emeryville, California 94608.  
SO VIROLOGY. (1988 Nov) 167 (1) 207-25.  
Journal code: XEA. ISSN: 0042-6822.

CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals; Cancer Journals  
OS GENBANK-M22343  
EM 198902

L26 ANSWER 20 OF 21 MEDLINE  
AN 8625169 MEDLINE  
DN 8625169  
TI Mapping of the major \*\*\*glycoprotein\*\*\* gene of \*\*\*human\*\*\*  
\*\*\*cytomegalovirus\*\*\*  
AU Mach M; Utz U; Fleckenstein B  
SO JOURNAL OF GENERAL VIROLOGY. (1986 Jul) 67 (Pt 7) 1461-7.  
Journal code: JPB. ISSN: 0022-1317.

CY ENGLAND; United Kingdom  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals; Cancer Journals  
EM 198610

L26 ANSWER 21 OF 21 MEDLINE DUPLICATE 12  
AN 84174099 MEDLINE  
DN 84174099  
TI Physical mapping of \*\*\*human\*\*\* \*\*\*cytomegalovirus\*\*\* genes:  
identification of DNA sequences coding for a virion  
\*\*\*phosphoprotein\*\*\* of 71 kDa and a viral 65-kDa polypeptide.  
AU Nowak B; Gmeiner A; Sanow P; Levine A J; Fleckenstein B  
SO VIROLOGY. (1984 Apr 15) 134 (1) 91-102.  
Journal code: XEA. ISSN: 0042-6822.

CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals; Cancer Journals  
EM 198407

=> s human sera

L28 10897 HUMAN SERA  
=> s eco rl  
L29 1702 ECO RI  
=> s ll and l29  
L30 7 L1 AND L29  
=> dup rem l30

PROCESSING COMPLETED FOR L30  
L31 5 DUP REM L30 (2 DUPLICATES REMOVED)  
=> d 1-5 bib ab

L31 ANSWER 1 OF 5 MEDLINE DUPLICATE 1  
AN 94159338 MEDLINE  
DN 94159338  
TI Triple retinal infection with human immunodeficiency virus type 1,  
\*\*\*cytomegalovirus\*\*\*, and herpes simplex virus type 1. Light and  
electron microscopy, immunohistochemistry, and in situ  
hybridization.  
AU Rummelt V; Rummelt C; Jahn G; Wenkel H; Singer C; Mayer U M;  
Naumann G O  
CS Department of Ophthalmology, University of Erlangen-Nürnberg,  
Germany.  
SO OPHTHALMOLOGY. (1994 Feb) 101 (2) 270-9.  
Journal code: O15. ISSN: 0161-6420.

CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 199406

AB PURPOSE: This report describes the histopathologic and virologic  
findings of the retina from a 55-year-old bilateral patient with the  
acquired immune deficiency syndrome (AIDS), who had concurrent human  
immunodeficiency virus type 1 (HIV-1), \*\*\*cytomegalovirus\*\*\* (\*\*\*CMV\*\*\*), and herpes simplex virus type 1 (HSV-1) retinitis, and  
was treated with ganciclovir. METHODS: The eyes were obtained at  
autopsy and processed for light microscopy and transmission electron  
microscopy. Immunohistochemical stains for HSV-1, \*\*\*CMV\*\*\*,  
HIV-1, varicella zoster virus, and glial fibrillary acidic protein  
were carried out using the peroxidase-antiperoxidase and  
streptavidin-biotin-alkaline phosphatase techniques. For in situ  
hybridization, a radiolabeled \*\*\*CMV\*\*\* DNA probe (\*\*\*Eco\*\*\*  
-\*\*\*RVI\*\*\*-V fragment of strain AD 169) was used. RESULTS:  
Results of histopathologic examination showed a full-thickness  
necrotizing retinitis with cytomegalic and herpes viral intranuclear  
inclusions in cells of the sensory retina, retinal vascular  
endothelium, and the retinal pigment epithelium. Some areas of the  
retina were replaced by glial tissue. The choroid contained only a  
few chronic inflammatory cells. Immunoperoxidase studies disclosed  
\*\*\*CMV\*\*\* antigens diffusely distributed throughout all layers of  
the retina and the retinal pigment epithelium. Herpes simplex virus  
type 1 antigens were present in retinal cells and the retinal  
vascular endothelium. Human immunodeficiency virus type 1 antigens  
were found in mononuclear cells in all layers of the sensory retina.  
Dual infections with HIV-1 and \*\*\*CMV\*\*\* of individual  
multinucleated giant cells of glial origin were demonstrated  
immunohistochemically. Transmission electron microscopy showed  
herpes viral particles in the vascular endothelium of the retinal  
vessels and the choriocapillaris. Human immunodeficiency virus  
particles were identified in the endothelium of the  
choriocapillaris. CONCLUSIONS: The possibility of multiple viral  
infections of the retina, mimicking classic \*\*\*CMV\*\*\* retinitis,  
should be considered in the clinical and histologic differential  
diagnosis of necrotizing retinitis in patients with AIDS.

L31 ANSWER 2 OF 5 BIOSIS COPYRIGHT 1998 BIOSIS  
AN 90-519028 BIOSIS  
DN BA90:136304  
TI NUCLEIC ACID HYBRIDIZATION FOR DETECTION OF  
\*\*\*CYTOMEGALOVIRUS\*\*\*

AU KARNAUHL K; SANDOW D; SELIVANOV N A  
CS INST. MEDIZINISCHE MIKROBIOLOGIE DES BEREICHS MEDIZIN  
DER  
MARTIN-LUTHER-UNIV. HALLE-WITTENBERG, LENINALLEE 6,  
HALLE, DDR-4020.  
SO Z KLIN MED (BERL) 45 (16). 1990. 1401-1404. CODEN: ZKMEEF  
ISSN:  
0233-1608  
LA German  
AB DNA-DNA hybridization was used to detect human  
\*\*\*cytomegalovirus\*\*\* (HCMV) in urine samples taken from patients  
after kidney transplantation. The following 32P-labelled probes were  
chosen: the 8,900 base-pair (bp) \*\*\*Eco\*\*\* \*\*\*R1\*\*\* fragment  
of cDNA clone HCMV pHDe9 and the 11,700 bp Hind III-L fragment of  
HCMV  
AD 169. Preliminary results so far obtained from 31 patients after  
kidney transplantation are likely to suggest that the above probes  
are suitable for specific, no-delay diagnostic identification of  
HCMV-DNA. Further studies will have to be undertaken for more  
elucidation of the specificity and sensitivity of nucleic acid  
hybridization in comparison to other methods for virus detection.

L31 ANSWER 3 OF 5 MEDLINE DUPLICATE 2  
AN 89198061 MEDLINE  
DN 89198061  
TI Primer-mediated enzymatic amplification of \*\*\*cytomegalovirus\*\*\*  
( \*\*\*CMV\*\*\* ) DNA. Application to the early diagnosis of  
\*\*\*CMV\*\*\* infection in marrow transplant recipients.  
AU Casati S A; Poon M C; Pal R; Calver-James J; Bowen T J;  
Russell J A; Kravetz S A; Pon R T; Hoar D J  
CS Canadian Red Cross, Blood Transfusion Service, Calgary, Alberta.  
SO JOURNAL OF CLINICAL INVESTIGATION, (1989 Apr) 83 (4) 1109-15.  
Journal code: HST. ISSN: 0021-9738.

CY United States  
DT Journal: Article; (JOURNAL ARTICLE)  
LA English  
FS Abridged Index Medicus Journal; Priority Journals; Cancer Journals  
EM 198907  
AB A nucleic acid amplification procedure, the polymerase chain  
reaction (PCR), has been used to establish a diagnostic assay for  
the identification of \*\*\*cytomegalovirus\*\*\* ( \*\*\*CMV\*\*\* )  
immediate-early sequences in clinical specimens. Preliminary testing  
against virus-infected cell cultures indicated that the PCR assay  
was highly \*\*\*CMV\*\*\*-specific, recognizing both wild-type and  
laboratory strains of \*\*\*CMV\*\*\*. There was no cross-reactivity  
with human DNA or with DNA from other herpes viruses. The  
sensitivity of the assay, using cloned \*\*\*CMV\*\*\* AD169  
\*\*\*Eco\*\*\* \*\*\*R1\*\*\* fragment-J as template, was 1 viral genome  
per 40,000 cells. In a prospective study of \*\*\*CMV\*\*\* infection  
in bone marrow transplant recipients, the PCR assay correctly  
identified four patients with confirmed \*\*\*CMV\*\*\* infection. In  
three of these patients who were followed longitudinally,  
correlation of DNA reactivity with \*\*\*CMV\*\*\* culture and  
\*\*\*CMV\*\*\* antibody status over time indicated that DNA was the  
most sensitive marker for the diagnosis of \*\*\*CMV\*\*\* infection.

L31 ANSWER 4 OF 5 MEDLINE  
AN 90096208 MEDLINE  
DN 90096208  
TI DNA probe technique for diagnosis of human \*\*\*cytomegalovirus\*\*\*  
infection.  
AU Zhang X; Duan Y P; Chen X Z  
SO JOURNAL OF TONGJI MEDICAL UNIVERSITY, (1989) 9 (3) 170-3.  
Journal code: KAJ. ISSN: 0257-716X.

CY China  
DT Journal: Article; (JOURNAL ARTICLE)  
LA English  
EM 199004  
AB A rapid diagnostic assay for human \*\*\*cytomegalovirus\*\*\* (HCMV)  
has been developed for detecting HCMV DNA in urine samples with  
32P-labelled cloned fragment, \*\*\*Eco\*\*\* \*\*\*R1\*\*\* fragment B,  
of DNA from HCMV strain Towne. 3.2 pg of homologous fragment from  
HCMV DNA could be detected by the labelled probe, and it did not  
hybridize DNA from other herpes viruses or human cells in dot  
hybridization assay. The assay correctly identified all (100%) of 7  
coded urine specimen cultures positive for HCMV and 9 (90%) of 10  
urine sample cultures negative for HCMV. So the hybridization assay  
was correct and as sensitive as the currently available tissue  
culture technique. The infection levels of different populations,  
such as organ transplantation recipients, patients with infantile  
hepatitis syndrome, normal infants, fetuses, have been investigated  
by the hybridization assay in the present study.

L31 ANSWER 5 OF 5 MEDLINE  
AN 80078852 MEDLINE  
DN 80078852  
TI \*\*\*Cytomegalovirus\*\*\* strain differentiation by DNA restriction  
analysis.  
AU Doerr H W; Kunder A; Schmitz H  
SO ONCOLOGY, (1979) 36 (6) 245-7.  
Journal code: OHW. ISSN: 0030-2414.  
CY Switzerland  
DT Journal: Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 198004  
AB The heterogeneity of \*\*\*CMV\*\*\* DNA obtained from standard  
strains and new isolates, including a vaccination strain (Towne  
125), was investigated. The cleavage patterns produced by the  
restriction endonucleases \*\*\*Eco\*\*\* \*\*\*R1\*\*\* and Bam I  
revealed stable strain specificities of \*\*\*CMV\*\*\*. On the other  
hand, a remarkable homology of sequence-specific \*\*\*CMV\*\*\* DNA  
fragmentation was demonstrated. A \*\*\*CMV\*\*\* subtyping relevant  
to clinical questions seems to be improbable.

=> d his  
(FILE HOME ENTERED AT 09:25:04 ON 03 JUL 1998)  
FILE MEDLINE. BIOSIS. CAPLUS ENTERED AT 09:25:17 ON 03 JUL  
1998  
L1 47016 S CMV OR CYTOMEGALOVIRUS OR CYTOMEGALO  
VIRUS  
L2 68 S P228  
L3 996 S \*AD169\* OR \*AD 169\*  
L4 6 S L1 AND L2 AND L3  
L5 2 DUP REM L4 (4 DUPLICATES REMOVED)  
L6 40 S L1 AND L2  
L7 15646 S \*HINDIII\* OR \*HIND III\*  
L8 2866 S \*SMAI\*  
L9 866 S L7 AND L8  
L10 0 S L9 AND L6  
L11 3 S L9 AND L1  
L12 1 DUP REM L11 (2 DUPLICATES REMOVED)  
L13 938 S HUMAN AND L3  
L14 937 S L13 AND L1  
L15 168536 S GLYCOPROTEIN  
L16 24580 S PHOSPHOPROTEIN

L17 0 S \*P2G11\*  
L18 344708 S MONOCLONAL OR \*MAB P2G11\*  
L19 192406 S L13 OR L16  
L20 125 S L19 AND L14  
L21 139 S L18 AND L14  
L22 0 S L21 AND \*MAB P2G11\*  
L23 43 S L21 AND L20  
L24 43 S L2 AND L23  
L25 43 S L24 AND HUMAN  
L26 21 DUP REM L25 (22 DUPLICATES REMOVED)  
L27 0 S \*HIND III R FRAGMENT\*  
L28 10897 S HUMAN SERA  
L29 1702 S ECO RI  
L30 7 S L1 AND L29  
L31 5 DUP REM L30 (2 DUPLICATES REMOVED)  
=> s detection  
L32 676194 DETECTION  
=> s diagnosis  
1 FILES SEARCHED...  
L33 1551410 DIAGNOSIS  
=> s l33 or l34  
L34 NOT FOUND  
The L-number entered could not be found. To see the definition  
of L-numbers, enter DISPLAY HISTORY at an arrow prompt (=>).  
=> s l33 or l32  
2 FILES SEARCHED...  
L34 2140444 L33 OR L32  
=> s l34 and l1  
L35 9859 L34 AND L1  
=> s l35 and l28  
L36 64 L35 AND L28  
=> s l36 and positive  
L37 19 L36 AND POSITIVE  
=> s l16 and l37  
L38 5 L16 AND L37  
=> dup rem l38  
PROCESSING COMPLETED FOR L38  
L39 3 DUP REM L38 (2 DUPLICATES REMOVED)  
=> d 1-3 b1b ab  
L39 ANSWER 1 OF 3 MEDLINE DUPLICATE 1  
AN 95280751 MEDLINE  
DN 95280751  
TI Construction of a polypeptide fusion antigen of human  
\*\*\*cytomegalovirus\*\*\* pUL32 and \*\*\*detection\*\*\* of specific

antibodies by ELISA.  
AU Ripalti A, Bocconi M C, Campanini F, Bergamini G, Lazzarotto T, Batista M C, Dalla Casa B, Landini M P  
CS Department of Microbiology, School of Medicine, University of Bologna, Italy.  
SO NIEG MICROBIOLOGICA. (1995 Jan) 18 (1): 1-12.  
Journal code: CQC. ISSN: 1121-7138.  
CV Italy  
DT Journal, Article. (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 199509  
AB We have previously shown that single linear epitopes of the major human \*\*\*cytomegalovirus\*\*\* (HCMV) antigens, expressed as fusion proteins or synthesized as oligopeptides can be valuable diagnostic material in the serology of HCMV infection (5, 6, 13). In this work we fused sequences expressing two different epitopes (aa 1005-1048 and aa 595-614) contained in the basic \*\*\*phosphoprotein\*\*\* of 150 KD coded by UL32 (1, 2), (pPLJ32), which has repeatedly been shown to be the strongest immunogen present in the viral particle. The fusion protein was tested by ELISA with HCMV. \*\*\*positive\*\*\*  
\*\*\*human\*\*\* \*\*\*sera\*\*\* in comparison with other fusion proteins of pPLJ32. We found that the double epitope fusion protein was recognized by IgM present in a larger number of sera and with more intense reactions than all the other pPLJ32 fusion proteins. The double epitope reacted positively with 81.3% and, when denatured, with 94.7% of IgM. \*\*\*positive\*\*\* sera respectively. IgG reactivity was also high, reaching a percentage of 90.7.

L39 ANSWER 2 OF 3 MEDLINE  
AN 94201358 MEDLINE  
DN 94201358  
TI Construction of polypeptide fusion antigens of human \*\*\*cytomegalovirus\*\*\* pPLJ32: reactivity with human antibodies.  
AU Ripalti A, Ruan Q, Bocconi M C, Campanini F, Bergamini G, Landini M P  
CS Department of Microbiology, School of Medicine, University of Bologna, Italy.  
SO JOURNAL OF CLINICAL MICROBIOLOGY. (1994 Feb) 32 (2): 358-63.  
Journal code: HSH. ISSN: 0095-1137.  
CV United States  
DT Journal, Article. (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
EM 199407  
AB We have previously shown that single linear epitopes of the major human \*\*\*cytomegalovirus\*\*\* (HCMV) antigens, expressed as fusion proteins or synthesized as oligopeptides, can be valuable diagnostic material in the serology of HCMV infection (M. P. Landini, M. X. Guan, G. Jahn, W. Lindemann, M. Mach, A. Ripalti, A. Necker, T. Lazzarotto, and B. Plachter, J. Clin. Microbiol. 28:1375-1379, 1990; M. P. Landini, T. Lazzarotto, A. Ripalti, M. X. Guan, and M. La Placa, J. Clin. Microbiol. 27:2324-2327, 1989; A. Ripalti, M. P. Landini, E. S. Mocarski, and M. La Placa, J. Gen. Virol. 70:1247-1251, 1989). In this work we addressed the question of whether the expression of more than one linear epitope on a single fusion protein could increase the reactivity of genetically engineered antigenic material with human antibody. To answer this question we fused sequences expressing two different epitopes contained in the basic \*\*\*phosphoprotein\*\*\* of 150 kDa encoded by UL32 (M. S. Chee, A. T. Bankier, S. Beck, R. Bohm, C. M. Brown, T. Cerny, T. Hornet, C. A. Hutchinson, T. Kouzarides, J. A. Martignetti, and B. G. Barrell, Curr. Top. Microbiol. Immunol. 154:125-169, 1990; G. Jahn, T. Kouzarides, M. Mach, B.-C. Scholl, B. Plachter, B. Traupe, E. Predde, S. C. Sachwell, B. Fleckenstein,

and B. G. Barrell, J. Virol. 61:1358-1367, 1987). pPLJ32, which was repeatedly shown to be the strongest immunogen present in the viral particle. We also made fusions with sequences expressing a single epitope repeated once, twice, or three times. The different fusion proteins were tested with HCMV. \*\*\*positive\*\*\* \*\*\*human\*\*\*  
\*\*\*sera\*\*\* (ABSTRACT TRUNCATED AT 250 WORDS)

L39 ANSWER 3 OF 3 MEDLINE DUPLICATE 2  
AN 89279299 MEDLINE  
DN 89279299  
TI Identification and preliminary use of recombinant lambda gt11 fusion proteins in human \*\*\*cytomegalovirus\*\*\* \*\*\*diagnosis\*\*\*.  
AU Ripalti A, Landini M P, Mocarski E S, La Placa M  
CS Institute of Microbiology, Medical Faculty, S. Orsola General Hospital, Bologna, Italy.  
SO JOURNAL OF GENERAL VIROLOGY. (1989 May) 70 ( Pt 5): 1247-51.  
Journal code: 19B. ISSN: 0022-1317.  
CV ENGLAND: United Kingdom  
DT Journal, Article. (JOURNAL ARTICLE)  
LA English  
FS Priority Journals: Cancer Journals  
EM 198909  
AB We have isolated reactive clones from a lambda gt11 expression library of human \*\*\*cytomegalovirus\*\*\* (HCMV) DNA using HCMV-  
\*\*\*positive\*\*\* \*\*\*human\*\*\* \*\*\*sera\*\*\*. Among the recombinant clones obtained, one carried a fragment encoding a portion of p32, the major non-structural DNA-binding protein of 52K (p32) and another carried a part of the gene coding for p150, the major structural \*\*\*phosphoprotein\*\*\*. These two fusion proteins were examined by immunoblot analysis to test their ability to bind specific antibodies in \*\*\*human\*\*\* \*\*\*sera\*\*\*. The results showed that high titres of antibody to the DNA-binding protein are present in sera of patients undergoing acute HCMV infection, whereas high titres of antibodies to the structural \*\*\*phosphoprotein\*\*\* are widespread in the healthy HCMV-seropositive population. The use of these fusion proteins as antigens for differential screening of serum as a way of detecting recent HCMV infection is discussed.

=> s 126 and 13  
L40 0 L36 AND L3  
=> s 135 and 13  
L41 179 L35 AND L3  
=> d this

(FILE HOME ENTERED AT 09:25:04 ON 03 JUL. 1998)  
FILE MEDLINE, BIOSIS, CAPLUS ENTERED AT 09:25:17 ON 03 JUL. 1998  
L1 47016 S CMV OR CYTOMEGALOVIRUS OR CYTOMEGALO  
VIRUS  
L2 68 S PP28  
L3 996 S \*AD169\* OR \*AD 169\*  
L4 6 S L1 AND L2 AND L3  
L5 2 DUP REM L4 (4 DUPLICATES REMOVED)  
L6 40 S L1 AND L2  
L7 15646 S \*HINDIII\* OR \*HIND III\*  
L8 2866 S \*SNAI\*  
L9 686 S L7 AND L8  
L10 0 S L9 AND L6  
L11 3 S L9 AND L1

L12 1 DUP REM L11 (2 DUPLICATES REMOVED)  
L13 938 S HUMAN AND L3  
L14 937 S L13 AND L1  
L15 168536 S GLYCOPROTEIN  
L16 24580 S PHOSPHOPROTEIN  
L17 0 S \*P2G11\*  
L18 344708 S MONOCLONAL OR \*MAB P2G11\*  
L19 192406 S L15 OR L16  
L20 125 S L19 AND L14  
L21 139 S L18 AND L14  
L22 0 S L21 AND \*MAB P2G11\*  
L23 43 S L21 AND L20  
L24 43 S L3 AND L23  
L25 43 S L24 AND HUMAN  
L26 21 DUP REM L25 (22 DUPLICATES REMOVED)  
L27 0 S \*HIND III R FRAGMENT\*  
L28 10897 S HUMAN SERA  
L29 1702 S ECO RI  
L30 7 S L1 AND L29  
L31 5 DUP REM L30 (2 DUPLICATES REMOVED)  
L32 676194 S DETECTION  
L33 1551410 S DIAGNOSIS  
L34 2140444 S L33 OR L32  
L35 9859 S L34 AND L1  
L36 64 S L35 AND L28  
L37 19 S L36 AND POSITIVE  
L38 5 S L16 AND L37  
L39 3 DUP REM L38 (2 DUPLICATES REMOVED)  
L40 0 S L36 AND L3  
L41 179 S L35 AND L3  
=> s 141 and 113  
L42 169 L41 AND L13  
=> s 119 and 142  
L43 9 L19 AND L42  
=> s 142 and 128  
L44 0 L42 AND L28  
=> s 141 and 128  
L45 0 L41 AND L28  
=> s 136 and 113  
L46 0 L36 AND L13  
=> s 113 and 134  
L47 169 L13 AND L34  
=> s 147 and 128  
L48 0 L47 AND L28  
=> s 129 or 17 or 18  
L49 19120 L29 OR L7 OR L8  
=> s 149 and 113

L50 104 L49 AND L13  
=> s 150 and 11  
L51 104 L50 AND L1  
=> s 151 and 128  
L52 3 L51 AND L28  
=> dup rem 152  
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T1 Identification and procaryotic expression of the gene coding for the highly immunogenic 28-kilodalton structural phosphoprotein (pp28) of \*\*\*human\*\*\* \*\*cytomegalovirus\*\*\*  
AU Meyer H; Bankier A T; Landini M P; Brown C M; Barrell B G; Ruger B; Mach M  
CS Institut für Klinische und Molekulare Virologie, Universitat Erlangen-Nürnberg, Federal Republic of Germany;.  
SO JOURNAL OF VIROLOGY. (1988 Jul) 62 (7) 2243-50.  
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CY United States  
DT Journal Article; (JOURNAL ARTICLE)  
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FS Priority Journals Cancer Journals  
OS GENBANK-M21013  
EM 198809  
AB \*\*\*Human\*\*\* \*\*cytomegalovirus\*\*\* contains a structural polypeptide that is 28 kilodaltons in apparent molecular size and is reactive in Western blot (immunoblot) analysis with the majority of \*\*\*human\*\*\* \*\*sera\*\*\*. The gene coding for this polypeptide was mapped on the genome of \*\*\*human\*\*\* \*\*cytomegalovirus\*\*\* strain \*\*\*AD169\*\*\*. A monoclonal antibody specific for the 28-kilodalton polypeptide was used to screen a cDNA library constructed from poly(A)+ RNA of \*\*\*human\*\*\*  
\*\*\*cytomegalovirus\*\*\* -infected cells in the procaryotic expression vector lambda gt11. Hybridization of cDNA with cosmid and plasmid clones mapped the gene to the \*\*\*HindIII\*\*\* R fragment. The gene was transcribed into a late 1,3-kilobase RNA. The nucleotide sequence of the coding region was determined. Parts of the 28-kilodalton polypeptide were expressed in Escherichia coli as hybrid proteins fused to beta-galactosidase. In Western blots these proteins were recognized by \*\*\*human\*\*\* \*\*sera\*\*\*. Antibodies raised against the hybrid proteins reacted specifically with the viral antigen in immunoprecipitations and Western blots. In vitro phosphorylation of HCMV virions and immunoprecipitation showed that the 28-kilodalton polypeptide was phosphorylated.  
=> d bib  
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L1 47016 S CMV OR CYTOMEGALOVIRUS OR CYTOMEGALO  
VIRUS  
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L7 15646 S \*HINDIII\* OR \*HIND III\*  
L8 2866 S \*SMAI\*  
L9 686 S L7 AND L8  
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L15 168536 S GLYCOPROTEIN  
L16 24380 S PHOSPHOPROTEIN  
L17 0 S \*PP2G11\*  
L18 344708 S MONOCLONAL OR \*MAB PP2G11\*  
L19 192406 S L15 OR L16  
L20 125 S L19 AND L14  
L21 139 S L18 AND L14  
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